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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,699	08/11/2003	James Allen Charnley JR.	W012 P00898-US1	1698
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EXAMINER FU, HAO				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/604,699

**Applicant(s)**

CHARNLEY, JAMES ALLEN

**Examiner**

Hao Fu

**Art Unit**

3609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 11/04/2003
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAIL ACTION

### *Claim Rejection – USC 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-3, 6, and 7 are rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcaly et al (Pub. No.: US 2002/0007329, hereinafter "Alcaly"), Gaini (Pub. No.: US 2002/0147672, hereinafter "Gaini"), and US Patent Number 5,619,695 to Arbabi (hereinafter "Arbabi"), and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F2d 454, CCPA 1955).

As per claim 1, Lear teaches a method for constructing a population of asset allocation alternatives, comprising the steps of:

- providing investment performance data for a plurality of securities (see column 2, line 49-51, and column 4, line 35-37);

- grouping these securities on the basis of this performance data into one of a plurality of market sectors (see column 8, line 3-11, it is implied that similar securities are grouped together);

- determining a series of periodic investment returns of each of the securities (see column 2, line 35-38);

Examiner notes however, Lear does not teach generating a series of the average of periodic investment returns for the population of securities within each of the plurality of market sectors;

- determining a minimum allocation percentage increment for each of the market sectors;

- determining allocation alternatives from the application of multiples of this minimum allocation percentage increment for each of the market sectors;

- creating a list of the all possible allocation alternatives that can be determined from the application of all multiples of this minimum allocation percentage increment for all determined market sectors;

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calculating a series of weighted-average periodic returns for each of the allocation alternatives; and

calculating analysis-period measures of investment performance for the population of all possible allocation alternatives and the series of weighted-average periodic returns.

Arbabi teaches determining a minimum allocation percentage increment for each group (see column 6, line 3-6), and the present invention groups assets by market sectors. Arbabi also teaches determining allocation alternatives from the application of multiples of this minimum allocation percentage increment (see column 6, line 3-6).

*In re Aller* teaches routine experimentation. In view of this case, performing routine procedure to determine allocation alternatives is considered obvious to one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to determine a minimum allocation percentage increment for each of the market sectors; and determine allocation alternatives from the application of multiples of this minimum allocation percentage increment for each of the market sectors.

One of ordinary skill in the art would have been motivated to modify the reference in order to find all allocation alternatives.

Gaini teaches creating a list of the all possible allocation alternatives that can be determined from the application of all multiples of this minimum allocation percentage increment for all determined market sectors (see Fig 7 and Fig 8).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to create a list of the all possible allocation alternatives.

One of ordinary skill in the art would have been motivated to modify the reference in order to show all allocation alternatives.

Alcaly teaches generating a series of the average of periodic investment returns for the population of securities within each of the plurality of market sectors (see paragraph 0014 and 0015, "indices" are combinations of different assets, which are the same as allocation alternatives);

calculating a series of weighted-average periodic returns for each of the allocation alternatives (see paragraph 0015); and

calculating analysis-period measures of investment performance for the population of infinite number of combination and the series of weighted-average periodic returns (see paragraph 0015).

*In re Aller* teaches using routine experimentation to find optimum ranges is an obvious modification over the prior art. Applicant's invention repeats analysis for all possible allocation alternatives in order to find the best allocation of investment.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to generate a series of the average of periodic

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investment returns for the population of securities within each of the plurality of market sectors; calculate a series of weighted-average periodic returns for each of the allocation alternatives; and include all possible allocation alternatives for a plurality of analysis periods made from a series of weighted periodic returns.

One of ordinary skill in the art would have been motivated to modify the reference in order to find the optimum allocation.

As per claim 2, Lear does not teach the population of allocation alternatives is comprised of populations of all possible allocation alternatives for a plurality of analysis periods made from a series of weighted periodic returns.

Alcaly teaches weighted average return and the population of allocation alternative is comprised of populations of infinite number of weighting combination (see paragraph 0015).

*In re Aller* teaches using routine experimentation to find optimum ranges is an obvious modification over the prior art. Applicant's invention repeats analysis for all possible allocation alternatives in order to find the best allocation of investment.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include all possible allocation alternatives for a plurality of analysis periods made from a series of weighted periodic returns.

One of ordinary skill in the art would have been motivated to modify the reference in order to find the optimum allocation.

As per claim 3, Lear teaches the number of market sectors is five (see column 8, line 3-11).

As per claim 6, Lear does not teach the market sector allocations are determined in minimum allocation percentage increments of 5 percent.

Arabi teaches the market sector allocations are determined in minimum allocation percentage increments of 5 percent (see column 6, line 3-6).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to set the minimum allocation percentage increments to 5 percent.

One of ordinary skill in the art would have been motivated to modify the reference in order to provide some boundary for calculation.

As per claim 7, Lear does not teach a total of 10,626 allocation alternatives are provided as the population of all possible allocation alternatives for each analysis period.

Alcaly teaches infinite numbers of combinations are provided as the population of all possible allocation alternatives for each analysis period (paragraph 0015).

*In re Aller* teaches using routine experimentation to find optimum ranges is an obvious modification over the prior art. Applicant's invention repeats analysis for all possible allocation alternatives in order to find the best allocation of investment.

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It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include a total of 10,626 allocation alternatives for analysis.

One of ordinary skill in the art would have been motivated to modify the reference in order to find the optimum allocation.

Claim 4 is rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcaly et al (Pub. No.: US 2002/0007329), Gaini (Pub. No.: US 2002/0147672), and US Patent Number 5,619,695 to Arbabi, and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F2d 454, CCPA 1955), and further in view of US Patent Number 5,812,987 to Luskin et al (hereinafter "Luskin").

As per claim 4, Lear does not teaches the plurality of securities includes the type known as book-valued collective investment funds.

Luskin teaches the plurality of securities includes the type known as book-valued collective investment funds (see column 1, line 40-41).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include collective investment funds.

One of ordinary skill in the art would have been motivated to modify the reference in order to provide more investment option.

Claim 5 is rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcaly et al (Pub. No.: US 2002/0007329), Gaini (Pub. No.: US 2002/0147672), and US Patent Number 5,619,695 to Arbabi, and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F2d 454, CCPA 1955), and further in view of Official Notice.

As per claim 5, Lear teaches the series of analysis period investment performance measures the performance of the allocation for the past 20 years (see column 4, line 35-37, and column 5, line 9-11, and Table 1). Examiner notes, Lear does not teach measures area series of five-year analysis periods initiated each quarter over the past forty years.

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Official notice is given that it is old and well known to use forty years of quarterly past performance instead of twenty years for allocation performance measure.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to measures area series of five-year analysis periods initiated each quarter over the past forty years.

One of ordinary skill in the art would have been motivated to modify the reference in order to increase accuracy of calculation.

Claim 8, 9, 11, 12, 14-17 are rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcala et al (Pub. No.: US 2002/0007329), Gaini (Pub. No.: US 2002/0147672), and US Patent Number 5,619,695 to Arbabi, and further in view of the Purcell (Pub. No.: US 2003/01236054, hereinafter "Purcell"), and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F.2d 454, CCPA 1955).

As per claim 8, Lear teaches a method of selection and evaluation of investment portfolio asset allocation strategies, comprising the steps of:

- acquiring performance data for a population of similar investments (see column 2, line 49-51, and column 4, line 35-37);

- calculating the average of these periodic returns and a measurement of the variance of the periodic returns around this average for each investment (see column 5, line 9-15, and Table 1);

- grouping the investments into categories of investments having uniquely similar levels and patterns of investment risk, known as asset classes (see column 8, line 3-11, it is implied that similar securities are grouped together);

- calculating the performance statistics for each allocation alternative for each analysis-period (see column 5, line 9-15, and Table 1);

- and standardizing population-comparison statistics by recalculating the statistics to a standard scale in terms of deviation of the measure from a population average (see column 5, line 9-15).

Examiner notes however, Lear does not teach calculating a series of average of the periodic returns for the population of securities within each asset class;

- constructing a set of all possible asset allocation strategies from the combination of all multiples of the minimum allocation percentage increment from each asset class;

- calculating a series of periodic returns generated by each allocation alternative

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by multiplying the asset-class average periodic return by the percent of portfolio assets allocated to that asset class for each allocation alternative;  
calculating population-comparison statistics for each analysis-period;  
generating categories of allocation alternatives within each analysis-period  
population based on similar population-comparison statistics;  
comparing the statistics across a time-series of analysis-period populations.

Alcaly teaches calculating a series of average of the periodic returns for the population of securities within each index (see paragraph 0015). Index is a combination of assets. In applicant's invention, the assets are grouped by asset class, and thus creating an index. Alcaly also teaches calculating a series of periodic returns generated by each allocation alternative by multiplying the asset-class average periodic return by the percent of portfolio assets allocated to that asset class for each allocation alternative (see paragraph 0015, each allocation alternative is a combination of assets, which can be considered as an index);

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include calculating a series of average of the periodic returns for the population of securities within each asset class; and calculating a series of periodic returns generated by each allocation alternative by multiplying the asset-class average periodic return by the percent of portfolio assets allocated to that asset class for each allocation alternative

One of ordinary skill in the art would have been motivated to modify the reference in order to find the optimum allocation.

Arbabi teaches setting up a minimum allocation percentage (see column 6, line 3-6).

Gaini teaches constructing a set of possible asset allocation strategies from the combination of each asset class (see Fig 7 and Fig 8).

*In re Aller* teaches performing routine experimentation, which makes it possible to perform routine calculation to determine all possible combination of assets.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teaching of Arbabi, Gaini, and Lear to construct a set of all possible asset allocation strategies from the combination of all multiples of the minimum allocation percentage increment from each asset class;

One of ordinary skill in the art would have been motivated to modify the reference in order to find the optimum allocation.

Purcell teaches calculating population-comparison statistics for each analysis-period (see paragraph 0027);

generating categories of allocation alternatives within each analysis-period  
population based on similar population-comparison statistics (see paragraph 0027, prior art discloses "representing portfolios that offer essentially the same best-diversification benefits as portfolios along the theoretical curve but are more practical targets for investors to obtain and maintain," which is effectively creating at least two categories);



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standardizing population-comparison statistics by recalculating the statistics to a standard scale in terms of deviation of the measure from a population average and comparing the statistics across a time-series of analysis-period populations (see paragraph 0027).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to calculate population-comparison statistics, generate categories of allocation alternatives within each analysis-period population based on similar population-comparison statistics, and standardize population-comparison statistics by recalculating the statistics to a standard scale in terms of deviation of the measure from a population average and comparing the statistics across a time-series of analysis-period populations.

One of ordinary skill in the art would have been motivated to modify the reference in order to find and present to the users the optimum allocation.

As per claim 9, Lear teaches the performance data is publicly traded stocks and bonds (see column 8, line 3-6).

As per claim 11, Lear teaches the performance data acquired is a set of calculated investment returns for a contiguous set of time periods for each investment (see column 5, Table 1, prior art shows a contiguous set of investment return for a 20-year period).

As per claim 12, Lear does not teach an analysis-period population is comprised of 10,626 allocation alternatives.

Alcaly teaches an analysis-period population is comprised of infinite numbers of combinations (paragraph 0015).

*In re Aller* teaches using routine experimentation to find optimum ranges is an obvious modification over the prior art. Applicant's invention repeats analysis for all possible allocation alternatives in order to find the best allocation of investment.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include a total of 10,626 allocation alternatives for analysis.

One of ordinary skill in the art would have been motivated to modify the reference in order to find the optimum allocation.

As per claim 14, Lear does not teaches the calculation of the average of the periodic returns for each asset class by average weighted by asset size.

Alcaly teaches the calculation of the average of the periodic returns for each asset class by average weighted by asset size (see paragraph 0015, the "proportion of each dollar invested" determines the asset size).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to calculate the average of the periodic returns for each asset class by average weighted by asset size.

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One of ordinary skill in the art would have been motivated to modify the reference in order to clarify the weighting method.

As per claim 16, Lear teaches the population comparison statistics include average return and periodic returns variance (see column 5, line 9-15, and Table 1).

As per claim 17, Lear teaches the population-comparison statistics include differential return and the average and variance of average returns and returns variance for the population of categories of that population (see column 4, line 25-30, and column 5, Table 1).

Claim 10 is rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcaly et al (Pub. No.: US 2002/0007329), Gaini (Pub. No.: US 2002/0147672), and US Patent Number 5,619,695 to Arbabi, and further in view of the Purcell (Pub. No.: US 2003/01236054, hereinafter "Purcell"), and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F2d 454, CCPA 1955), and further in view of US Patent Number 5,812,987 to Luskin et al.

As per claim 10, Lear teaches the performance data is mutual funds (see column 5, line 10-12). Examiner notes however, Lear does not teach the performance data to be variable annuities and other book-valued collective investment funds.

Schirripa teaches the performance data includes variable annuities (see column 6, line 31-34).

Luskin teaches the performance data includes book-valued collective investment funds (see column 1, line 40-41).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include variable annuities and collective investment funds.

One of ordinary skill in the art would have been motivated to modify the reference in order to provide more investment option.

Claim 13 is rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcaly et al (Pub. No.: US 2002/0007329), Gaini

(Pub. No.: US 2002/0147672), and US Patent Number 5,619,695 to Arbabi, and further in view of the Purcell (Pub. No.: US 2003/01236054, hereinafter "Purcell"), and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F2d 454, CCPA 1955), and further in view of Official Notice.

As per claim 13, Lear does not teach the calculation of the average of the periodic returns for each asset class is by arithmetic average.

Official notice is given that using arithmetic average is old and well known in the mathematics art.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to specify the calculation of the average of the periodic returns for each asset class is by arithmetic average.

One of ordinary skill in the art would have been motivated to modify the reference in order to clarify the method of calculation.

Claim 15 is rejected under U.S.C. 103(a) as being unpatentable over US Patent Number 6,912,509 to Lear, in view of Alcala et al (Pub. No.: US 2002/0007329), Gaini (Pub. No.: US 2002/0147672), and US Patent Number 5,619,695 to Arbabi, and further in view of the Purcell (Pub. No.: US 2003/01236054, hereinafter "Purcell"), and further in view of *In Re Aller* (105 USPQ 233, 235; 220 F2d 454, CCPA 1955), and further in view of Chacko et al. (Pub. No.: US 2003/0120568, hereinafter "Chacko").

As per claim 15, Lear does not teach the calculation of the average of the periodic returns for each asset class by average weighted by market value.

Chacko teaches the calculation of the average of the periodic returns for each asset class by average weighted by market value (see paragraph 0211).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to calculate the average of the periodic returns for each asset class by average weighted by market value.

One of ordinary skill in the art would have been motivated to modify the reference in order to clarify the weighting method.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hao Fu whose telephone number is (571) 270-3441. The examiner can normally be reached on Mon-Fri/Mon-Thurs 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dixon can be reached on (571) 272-6803. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hao Fu  
Examiner  
Art Unit 3609

/Thomas A Dixon/  
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